

4-1-2021

## Preparticipation Evaluation of the Special Olympics Athlete

Mary M. Stephens, MD, MPH  
*Thomas Jefferson University*

Follow this and additional works at: <https://jdc.jefferson.edu/fmlectures>

 Part of the [Family Medicine Commons](#), and the [Primary Care Commons](#)

[Let us know how access to this document benefits you](#)

---

### Recommended Citation

Stephens, MD, MPH, Mary M., "Preparticipation Evaluation of the Special Olympics Athlete" (2021). *Department of Family & Community Medicine Presentations and Grand Rounds*. Paper 481.

<https://jdc.jefferson.edu/fmlectures/481>

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Department of Family & Community Medicine Presentations and Grand Rounds by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: [JeffersonDigitalCommons@jefferson.edu](mailto:JeffersonDigitalCommons@jefferson.edu).

# Preparticipation Evaluation of the Special Olympics Athlete

Mary M. Stephens, MD, MPH  
Medical Director, Jefferson Continuing Care Program  
Associate Professor, Family and Community Medicine

# Disclosures. . . official and unofficial!



NATIONAL  
CURRICULUM  
INITIATIVE IN  
DEVELOPMENTAL  
MEDICINE

Founded by AADMD in 2009,  
NCIDM intends to **integrate IDD  
curriculum** into every medical  
school in the United States.



# Special Olympics Mission

- To provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.



# Objectives

- By the end of this module the student will be able to describe the components of a pre-participation sports evaluation.
- By the end of this module the student will be able to articulate an assessment for atlantoaxial instability.
- By the end of this module the student will be able to apply the learned knowledge from the module to a case study.
- By the end of this module the student will be able to recommend appropriate anticipatory guidance to the athlete.

# Language Guidelines

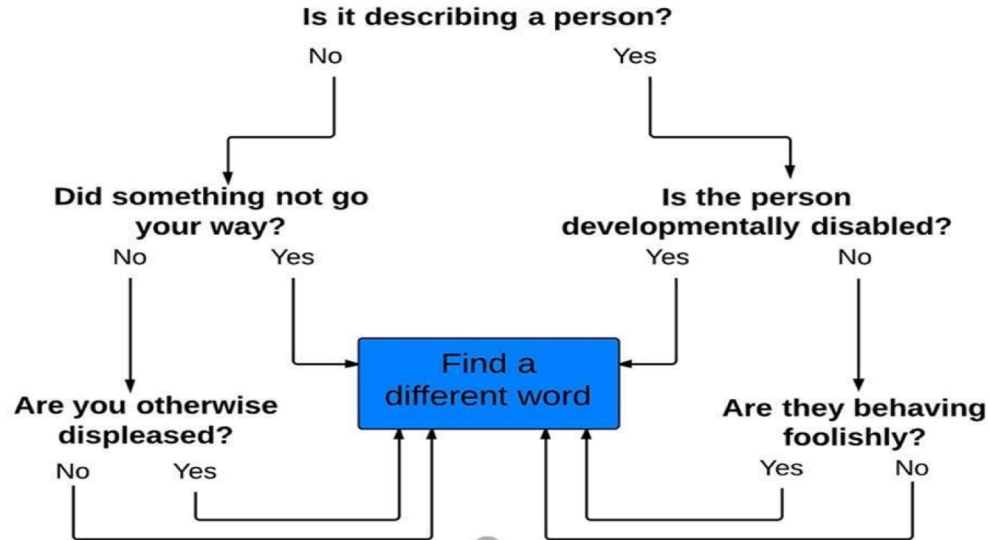
So for example....Down Syndrome 101

- First person language
  - An adult with Down syndrome vs. “He has Down’s” or Down syndrome adult
- Cognitive or intellectual disability, not mental retardation.

**It doesn't always flow smoothly off the tip of the tongue. . . that's ok, keep trying.**

# Never Okay

**When is it okay to use the word retarded?**



MILITARY SPECIAL  
NEEDS NETWORK

**Let me win. But if I cannot  
win, let me be brave in the  
attempt.**

**~Special Olympics athlete  
oath**



# About Special Olympics Pennsylvania



To provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.



# Benefits of exercise

- “Small Steps in Fitness, Major Leaps in Health for Adults With Intellectual Disabilities”
  - Healthy Aging and Intellectual Disabilities Study
  - c/w gen pop for cardiorespiratory fitness, 100% of those with ID scored below the average fitness range – “extremely unfit population”

Oppewal and Hilgenkamp, 2020



Even small improvements in measures of fitness (distance walked, speed, grip strength) associated with a reduction in mortality risk.

# Communication strategies

- **ESTABLISHING RAPPORT**
  - Speak directly with the patient
  - Avoid talking to an adult as if he/she were a child
- From The Toolkit for Primary Care Providers
  - Vanderbilt Kennedy Center



# CHOOSING APPROPRIATE LANGUAGE

- Use concrete language
  - Example – Please put your coat on vs. get ready
- Avoid shouting

# LISTENING



- Listen to what the patient says
- Allow enough time
  - **Processing takes time!**

# COMMUNICATING WITHOUT WORDS

- Use visual aids
- Act or demonstrate



# EXPLAINING CLEARLY

- Explain what will happen before you begin
- Tell and show what you are going to do and why



# PPE for athletes with special needs

- Office based may have some advantages to mass screening
- Parent/Caregiver presence preferred if the patient needs assistance providing history or to feel comfortable with the exam
- Balance the athlete's medical conditions and abilities with the demands of the sport

Modifications to consider. . . In addition to time!

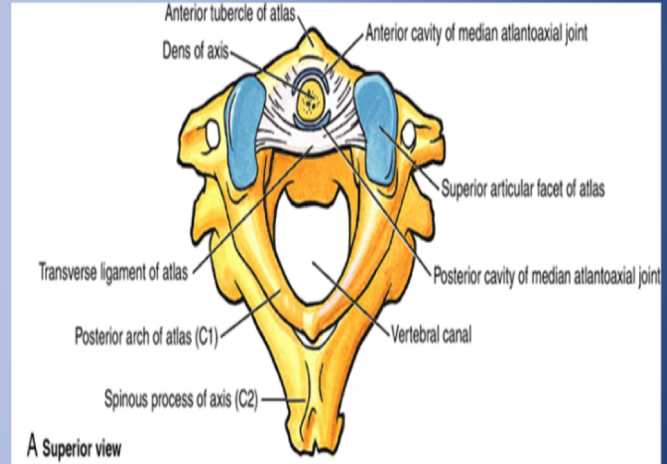


# Atlantoaxial Instability

- 10 – 30% of patients with Down Syndrome have atlantoaxial instability (AAI) radiographically
  - Excessive movement at the junction between the atlas (C1) and axis (C2)

# Atlantoaxial Instability (AAI)

- Contributing factors
  - Anatomy
    - Abnormal bony architecture
    - Weakened ligaments
  - Physiology
    - General laxity
    - Poor muscle tone





# More on AAI

- **Red flag** symptoms
  - Easy fatigability/Difficulty in walking
  - Abnormal gait/incoordination
  - Neck pain/Torticollis/limited neck mobility
  - Abnormal exam
    - Sensory deficits, spasticity, hyperreflexia, clonus, extensor-plantar reflex, UMN signs and symptoms, Posterior column signs and symptoms

## High risk sports for AAI

Due to risk of hyper-extension, radical flexion or direct pressure on neck or upper spine

- Judo
- Equestrian
- Gymnastics
- Diving and diving starts in aquatics
- Pentathlon
- Butterfly stroke
- High Jump
- Alpine skiing
- Snowboarding
- Squat lift
- Soccer team competition

# Radiographic Screening Recommendations

- Update. . . Screening studies **no longer** need to be obtained prior to high-risk activities. . . although uptake of this change is still ongoing!
- If done, not as reliable prior to age 3
- Do not routinely repeat imaging studies

# CASE STUDIES



# Case Study

- 34-year-old male with Down Syndrome
- BMI 35
- Long time participant in Special Olympics
- Here for every 3-year pre-participation physical



# Realities of participation

- What the Special Olympics is all about!  
Hard core competition!!



# Focus: What an athlete can do versus what they can't do!

- History?
- Physical?
- Clearance?
- Other recommendations?

# Background Information

- Involved in multiple sports for more than 20 years
- Took up running
- He's been having some right knee and ankle pain
- He's anxious to get cleared for swimming

# Case Study

- John is a 17-year-old male with Intellectual Disability
- BMI 23 ( any relevance?)
- Presents to the SBHC (school-based health center) for clearance for participation in Special Olympics through his school
- What is that scar?



# A word about school-based programs!





# **Focus: What an athlete can do versus what they can't do!**

- History
- Physical
- Clearance
- Other recommendations

# Background Information

- John is in a new foster home
  - At the visit with his paraprofessional from school
  - He's excited to participate with his new classmates
- Scar over is Left Flank/CVA area
- GU exam – left testicle non-palpable

# Pre-participation Form

- Page 1-Health History-Completed by athlete or parent/guardian
- General information: Guardian/Emergency contact
- Does the athlete have a PCP
- Does the athlete have diagnoses?
- What do you do in the case of this 17-year-old who has no historian to fill in the blanks?

# Page 2

- General Medical history form
- Completed by athlete or parent/guardian

# Page 3

- Participant Release Form
- Very straightforward- helpful to have some knowledge regarding legal guardianship



# Page 4

- Physical Exam
- Goal is to have the athlete engaged in the Special Olympics. There are multiple sports depending on the findings of the PE and PMH
- Recommendations
- Completed by physician, nurse practitioner or physician assistant.

# Page 5

- To be used by the referring physician and needs to be included in the application (if necessary).

# Case Study

- 35-year-old female with cerebral palsy and seizure disorder who presents to your clinic for pre-participation evaluation.
- It will be her first time participating in Special Olympics.
- Vitals: BP 114/72, HR 90, BMI 21

# Background Information

- She just moved in with her sister
- She wants to get involved in a community program
- She uses an assistive device for walking
- Legally blind
- Has a seizure disorder



# Focus: What an athlete can do versus what they can't do!

- History?
- Physical?
- Clearance?
- Other recommendations?

# History & physical

- What additional questions would you like to ask for patient history?
  - Degree of limitation – B LE spasticity
  - Seizure history
    - Numerous in childhood. Now improved on Keppra. Last seizure was in 2018 around emotional stress.
  - Legally blind – 20/200 in her R eye, only light perception on L
- What types of things to assess in a physical exam?
  - Neuromuscular exam (strength, tone, range of motion)
    - Assess ROM, motor function, prior injuries
- Any other thoughts?

# Cerebral Palsy

- Group of disorders that affect person's ability to move and maintain balance/posture
  - May have related conditions including intellectual disability, seizure disorder, disorders of hearing and/or vision, joint contractures, changes in the spine
- Three general groups:
  - Spasticity (stiff muscles)
  - Dyskinesia (uncontrollable movements)
  - Ataxia (poor balance/coordination)

# Seizure Disorder

- Definitive benefit for activity in persons with epilepsy
- Persons with Epilepsy tend to be less active
- Contraindicated for SCUBA, hang gliding, free climbing



# Care for Athlete with Epilepsy

- Know overall seizure control and meds
- Counsel athlete and caregiver on safety
- Make event and training staff aware
  - E.g., hot days, high stress, illness

# Clearance considerations

- What things do we need to consider for “clearance” or “modified clearance”?
  - Seizure disorder
  - Legally blind
- Seizure control (sports involving water, heights)
- Higher risk of MSK injury
- Spastic reaction following activity
- Ankle & foot deformities → callus
- Increased risk for fractures (?)
- Vision & hearing adaptations to sport

**Goal: Find a safe way to allow every athlete to participate!**

# Anticipatory Guidance



- Does the athlete have a primary care provider?
- Ask how the athlete how they are feeling...excited, nervous, afraid?
- Review with the athlete the importance of warming up and stretching.
- Does the athlete have appropriate fitting clothing and equipment? Sneakers, athletic shorts, etc.
- Does the athlete have appropriate supportive devices? Glasses, MAFO, knee braces

# References

- Oppewal, A., & Hilgenkamp, T. I. (2020). Is fatness or fitness key for survival in older adults with intellectual disabilities?. *Journal of Applied Research in Intellectual Disabilities*, 33(5), 1016-1025.
- Special Olympics Pennsylvania (n.d.). Retrieved from <https://specialolympicspa.org/>
- The Toolkit for Primary Care Providers (n.d.). Special Olympics Health, Center for Inclusive Health. Retrieved from <https://inclusivehealth.specialolympics.org/resources/tools/idd-toolkit-for-primary-care-providers>



# Questions and Thank You!



Mary Stephens, MD

Director of the Continuing Care Program

Jefferson Health- Navy Yard

[Mary.Stephens@Jefferson.edu](mailto:Mary.Stephens@Jefferson.edu)

215-503-3300